

# WDNR Lake Superior Charter Fishing Report 2019

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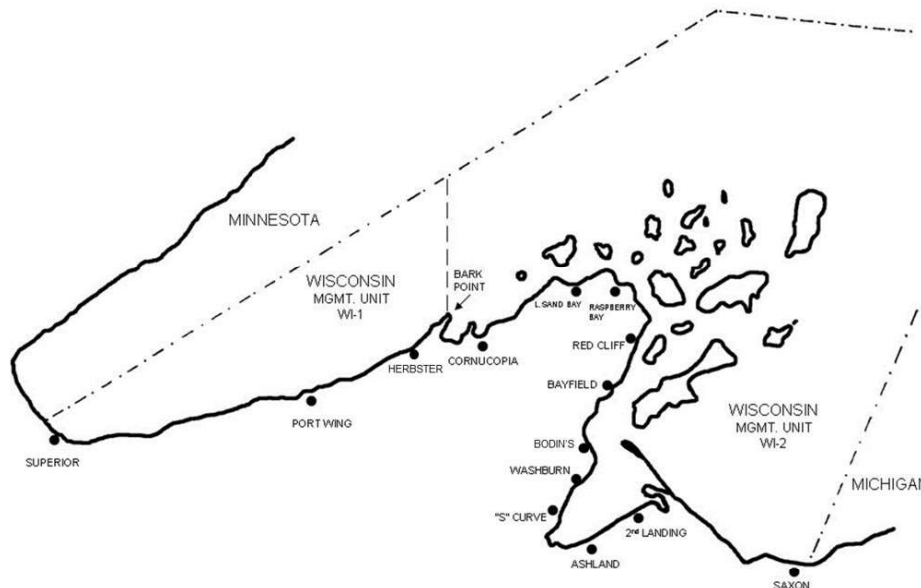
Lake Superior Fisheries Management Team

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## Methods

There were 24 active licensed charter captains that operated in Wisconsin waters of Lake Superior during the 2019 fishing season. Harvest estimates for guided charters came from mandatory monthly reports that were initiated in 1973. Information on number of anglers, hours fished, location (grid), and number of various species harvested was included in the Sport Trolling License Monthly Report (Form 9400-249). Saxon Harbor was closed during much of 2019, so no charter trips were recorded from this region. Harvest rates (fish/hour) are reported along with overall harvest numbers due to the variability in the number of licensed charter captains and total effort each year. Charter reports from October and November were not used in this report due to the closure of the Lake Trout sport fishing season during this time period. It should be noted that the charter fishing data alone may not perfectly illustrate the status of the entire recreational fishery each year. The Wisconsin waters of Lake Superior are divided into two management units: WI-1 or the Western Arm (west of the line running north-south from Bark Point; 46 deg. 53.21 min. N, 91 deg. 11.16 min. W) and WI-2 or the Apostle Islands region (east of the Bark Point line; Figure 1). Charter results were therefore separated by management unit.

Please refer to the Lake Superior Creel Report 2019 for more detailed numbers for harvest estimates of all species in the recreational fishery. All analyses were conducted in Program R, and the report was formatted using RMarkdown.



*Figure 1.* Wisconsin waters of Lake Superior, management units WI-1 and WI-2, and major ports in the WDNR Creel Survey.

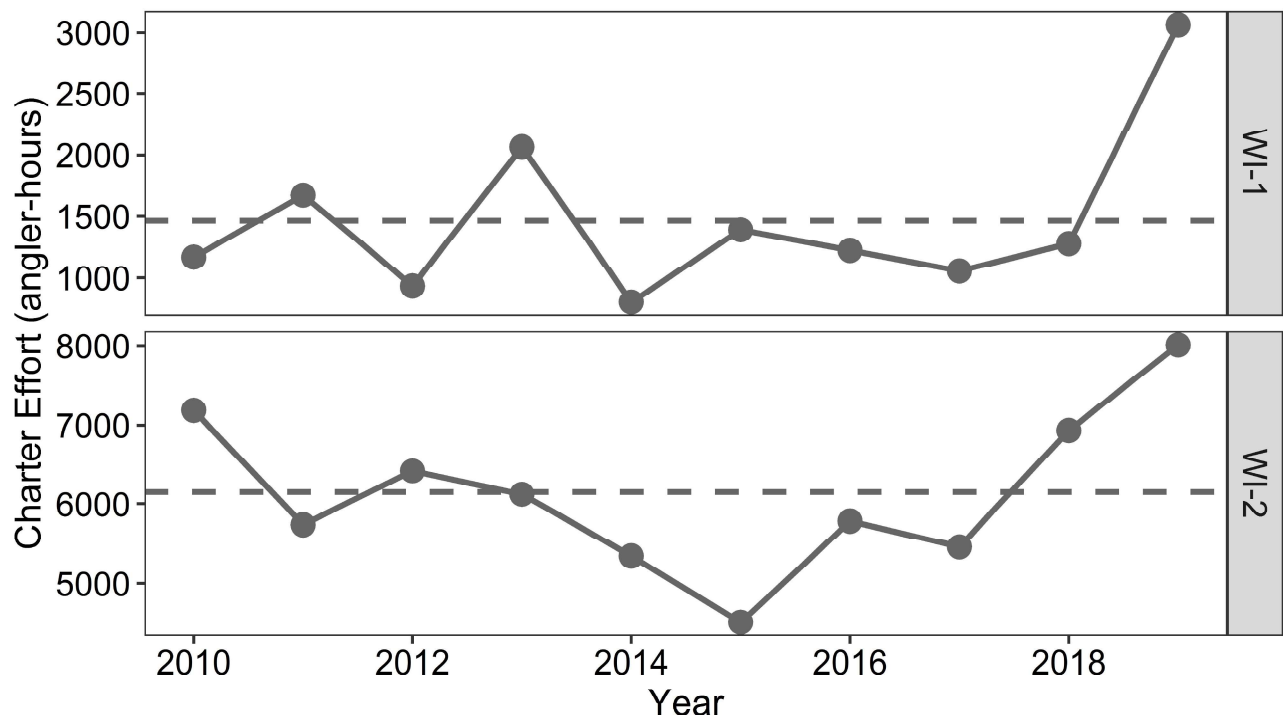
# Results

## WI-1

There was a total charter effort of 3061.5 angler-hours in management unit WI-1 in 2019 (Figure 2). This effort yielded a total of 984 harvested fish including 581 Lake Trout, 177 Coho Salmon, and 108 Walleye (Figure 3). These three species accounted for 88% of the total harvest in WI-1. Annual harvest rate in the 2019 charter fishing season was 0.3214 fish per angler-hour for all fish combined and 0.1898 fish per angler-hour for Lake Trout (Figure 4). Lake Trout charter harvest rate was higher than average in early summer months, but lower than average in later summer months in WI-1 in 2019 (Figure 5).

## WI-2

There was a total charter effort of 8011.5 angler-hours in management unit WI-2 in 2019 (Figure 2). This effort yielded a total of 3431 harvested fish including 1966 Lake Trout, 899 Coho Salmon, and 381 Brown Trout (Figure 3). These three species accounted for 94.6% of the total harvest in WI-2. Annual harvest rate in the 2019 charter fishing season was 0.4283 fish per angler-hour for all fish combined and 0.2454 fish per angler-hour for Lake Trout (Figure 4). Lake Trout charter harvest was higher than average in all months in WI-2 in 2019, but Lake Trout harvest rate was lower than average in July and September, meaning anglers required slightly more effort to catch Lake Trout in these months (Figure 5).



*Figure 2.* Charter angler effort (angler-hours) annually from 2010 to 2019 within each management unit (WI-1 and WI-2). Dashed lines are the mean effort for each management unit throughout the time series.

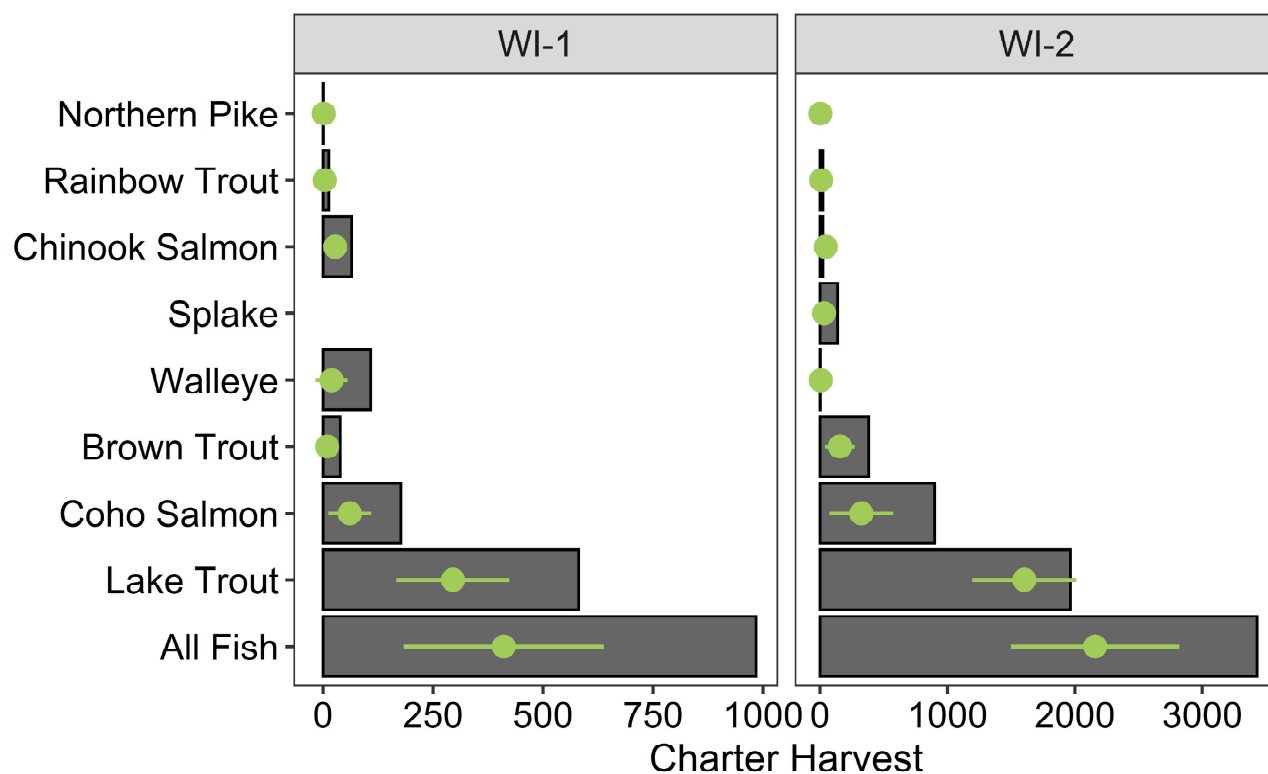


Figure 3. Charter harvest by species during the 2019 charter fishing season by management unit (WI-1 and WI-2). Green points and lines represent the annual mean since 2010 (+/- one standard deviation).

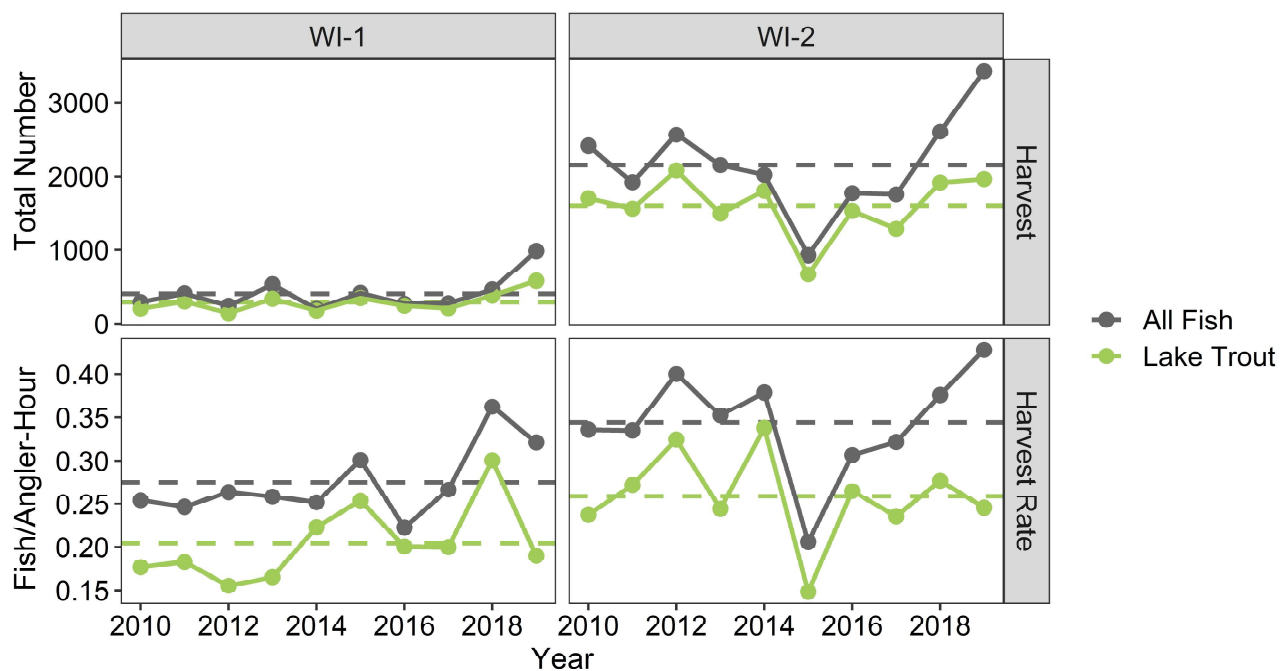


Figure 4. Annual harvest (top) and harvest rate (fish/angler-hour; bottom) of lake trout (green) and all fish (grey) combined during the entirety of the charter fishing season from 2010 to 2019. Dashed lines represent mean annual harvest (top) and mean annual harvest rate (bottom) throughout the time series.

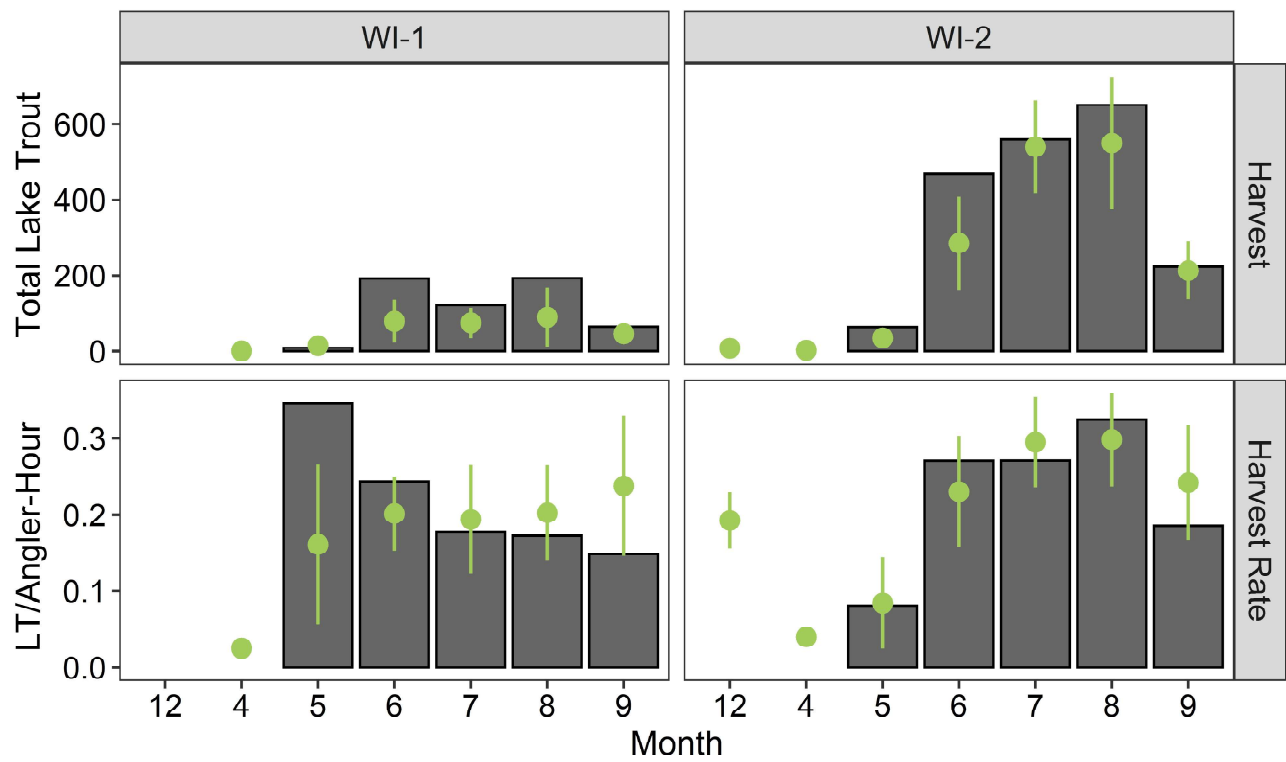


Figure 5. Lake Trout harvest (top) and harvest rate (fish/angler-hour; bottom) by month during the 2019 charter fishing season for each management unit (WI-1 and WI-2). Green points and lines represent the mean (+/- one standard deviation) lake trout harvest and harvest rate by month since 2010.